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Parthenogenesis in Bennettites.—Parthenogenesis, or the development of an embryo from an egg without fertilization, has been demonstrated for several angiosperms, and is claimed for *Pinus pinaster* and *Gnetum Ule*. In spite of the difficulty of proving a case of parthenogenesis in living seed plants, LIGNIER¹³ has given us a short paper with the rather startling title "*Bennettites Morieri* probably reproduces by parthenogenesis." One naturally looks for the evidence. Here it is. He found embryos, but no pollen grains or pollen tubes, and the tip of the nucellus was closed. Some of the sections were in series, at intervals of about 3 mm. Presumably most of the sections were not in series. When one remembers that pollen tubes have never been demonstrated in the Bennettitales and that very possibly the pollen grains may shed their sperms without the formation of a pollen tube, and that even in rather thick sections at intervals of 3 mm., more than nine-tenths of the material is missing, the evidence is not convincing. And yet, this "probable parthenogenesis" is given as a reason for the rapid disappearance of this group during the Cretaceous.—CHARLES J. CHAMBERLAIN.

A classification of conifers.—SAXTON¹⁴ has proposed a classification of conifers based upon the great extension of knowledge of the group developed during recent years. There is no question that the current classifications are archaic, and that a more natural classification of the group is demanded. SAXTON analyzes the characters to be used in such a classification, and discusses the various attempts that have been made. He then describes, with definite characters, five families (Araucariaceae, Podocarpaceae, Pinaceae, Cupressaceae, and Taxaceae), Pinaceae having two subfamilies (Abietoideae and Sciadopitoidae) and Cupressaceae three (Cupressoideae, Callitroideae, and Sequoideae). A consideration of the phylogeny of Coniferales results in an interesting "family tree" that shows the relationships of the families and subfamilies. An interesting item of the phylogeny, at this time, is that the araucarians are represented as the first offshoot from the common stock (presumably abietinean) that arises from Cordaitales, which later gave rise to the podocarps, and then the other families.—J. M. C.

Artificial parthenogenesis in *Fucus*.—Parthenogenesis in various members of the Phaeophyceae has been known for some time, and unfertilized eggs of *Fucus* have been caused to divide by treating them with solutions. OVERTON¹⁵ took exceptional care to obtain unfertilized eggs of *Fucus vesiculosus*, and each collection was divided into three lots, one of which was then fertilized, another was allowed to remain in normal sea water, while the third was treated with

¹³ LIGNIER O., *Le Bennettites Morieri* (Sap. et Mar.) Lignier se reproduisait probablement par parthénogénèse. Bull. Soc. Bot. France IV. 11:125-127. 1911.

¹⁴ SAXTON, W. T., The classification of conifers. New Phytol. 12:242-262. 1913.

¹⁵ OVERTON, J. B., Artificial parthenogenesis in *Fucus*. Science 37:841, 844. 1913.